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Please amend Claims 1, 4, 5, 6, 9, 10, 11 and 14, and add new Claims 16-21 as set forth

below.

1. (Once Amended) A method of extracting two-dimensional image shapes from a two-

dimensional array of pixel data, the method comprising the steps of:

selecting intensity vs. pixel information in a plurality of

different directions, through substantially the same point, in the vicinity of an edge of the

image shape;

recognizing scans with sufficient contrast as containing edge information;

subjecting acceptable scans to an edge detection algorithm;

detecting the edge location of the image by using said edge detection

algorithm; and

generating a locus of points that define the two-dimensional shape of the

image from the detected edge values.

4. (Once Amended) A method according to Claim 1, wherein the selecting step includes

the step of selecting intensity vs. pixel information in at least four directions.

5. (Once Amended) A method according to Claim 1, wherein one of said directions is

normal to the approximate edge location.

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6. (Once Amended) Apparatus for extracting two-dimensional shape information from an image, of a submicron structure, formed on an array of detectors, comprising:

means for determining intensity vs. detector location information for detectors on a plurality of scans in a plurality of different directions, through substantially the same point, in the vicinity of an edge of the image;

means for processing identified scans according to an edge detection algorithm to identify points on the edge of the image; and

means for generating a locus of points that define the two-dimensional shape of the structure from the identified edge points.

9. (Once Amended) Apparatus according to Claim 6, wherein the plurality of directions includes at least four directions.

10. (Once Amended) Apparatus according to Claim 6, wherein one of said directions is normal to an approximate edge location.

11. (Once Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for extracting two-dimensional image shapes from image data on a pixel array, the method steps comprising:

selecting intensity vs. pixel information in a plurality of different directions, through substantially the same point, in the vicinity of an edge of the image shape;

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recognizing scans with sufficient contrast as containing edge information;

subjecting acceptable scans to an edge detection algorithm;

detecting the edge location of the image by using said edge detection algorithm; and

generating a locus of points that define the two-dimensional shape of the image from the detected edge values.

14. (Once Amended) A program storage device according to Claim 11, wherein the selecting step includes the step of selecting intensity vs. pixel information in at least four directions.

16. (New) A method according to Claim 1, wherein the plurality of directions are angularly spaced apart about 22½ degrees.

17. (New) A method according to Claim 1, wherein the plurality of directions are angularly spaced apart about 45 degrees.

18. (New) Apparatus according to Claim 6, wherein the plurality of directions are angularly spaced apart about 22 ½ degrees.

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